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EXAMINER	
MOORE, DAVID K	

ART UNIT	PAPER NUMBER
2624	4

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/513,441	Applicant(s) BOETTCHER ET AL.	
	Examiner Yaoneng Lee	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 April 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities:

Appropriate corrections are required.

1. Reference character "169" has been used to designate both an image file (P5 line 23) and data file (P5 line 12) in the description. Fig. 1 specifically denotes the use of character reference 169 for a data file.

2. The use of the unit "kbs" for a predetermined data transfer rate (see P7 line 31) is objected to as the recognized unit for data transfer rate is kilobits per second or "kbps".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 1, 2, 6, 7 and 9, 10, 14, 15 and 17, 18, 22, 23 and 25, 26, 30, 31 and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Hines (6392758).

Regarding claim 1, the claimed invention reads on Hines as follows: Hines 's printing method discloses receiving a data stream from a content source external to the

printer (Fig. 3 ref. no. 118, 120, wherein **image data** from application program is sent to printer system); gathering a first portion of data from the stream (Fig. 3 ref. no. 312, col. 9 line 40-53, wherein one or more data bands are gathered in the buffer); printing the first portion while continuing to receive the stream (Fig. 3 ref. no. 310, 110 and in col. 9 line 61-col.10 line 3 and col. 10 line 15-19 wherein language monitor continues to receive data band while printing); and gathering a second portion of data from the stream (Fig. 3 ref. no. 312, 314, and in col. 10 line 16-17, where data received by language monitor is gathered in buffer similar to the step of gathering the first portion of data); and printing the second portion after printing the first portion (Fig. 3 ref. no. 314, 316 and 110, col. 10 line 18-19, wherein data from buffer is continually retrieved for printing).

Regarding claim 2, Hines's printing step of gathering a second portion is started during the step of printing the first portion (Fig. 3 ref. no. 312, 314, 316 and 110, col. 10 line 15-21, wherein buffer gathers second portion of data received by spooler thread while write thread processes and sends data for printing).

Regarding claims 6 and 7, Hines further discloses storing the second portion of the file in a memory source prior to the step of printing (Fig. 3 ref. no. 312, col. 9 line 46-53 explains storing the first band in memory which thereafter stores subsequent bands) and retrieving the second portion from the memory source after the step of printing the first portion (col. 9 line 58-61, col. 10 line 15-19, wherein subsequent portions follow the step of retrieving and printing first data portion).

Regarding claim 9, Hines's method further includes the gathering at least one additional portion of data from the stream and printing the at least one additional portion of data (col. 10 line 15-27 and Fig. 3 ref. no. 312, 314 wherein additional bands of data is continually gathered and printed).

Regarding claim 10, Hines discloses the method of receiving a first portion of the file from a content source external to the printer (Fig. 3 ref. no. 114, 120, 206 and 310, col. 9 line 36-38, 46-53); printing the first portion (Fig. 3 ref. no. 314, 110, col. 9 line 57-61); receiving a second portion of the file from the content source during the step of printing the first portion (Fig. 3 ref. no. 206, 310, col. 10 line 15-17); printing the second portion after printing the first portion (Fig. 3 ref. no. 314 110, col. 10 line 17-21).

Regarding claims 14, 15 and 17, the limitation of method claims 1, 2, 6, 7 and 9 covers the limitations of the method claims 14, 15 and 17 above. The dependent method claims of 6, 7 and 9 recite the same steps as the method claims 14, 15 and 17 as applied to claim 10.

Regarding claims 18, 22, 23 and 25, the printing system of Hines further discloses the print data (Fig. 3 ref. no. 120) from the content source remote from client system (Fig. 3 ref. no. 114, content source is **application program in operating system**) which partitions print data into bands or portions of data (Fig. 3, ref. no. 206, col. 9 line 36-46, wherein partitioning into data bands is done by spooler); transferring a first portion of the plurality of portions from the content source to the client system (Fig. 3 ref. no. 310, 312, col. 9 line 42-44, wherein language monitor receives data band that spooler sends); printing the first portion (Fig. 3 ref. no. 314, 110, col. 9 line 57-61);

transferring a second portion from the content source (Fig. 3 ref. no. 206, 310, col. 10 line 15-17); printing the second portion after printing the first portion (Fig. 3 ref. no. 314 110, col. 10 line 17-21).

This is similar to the method of claim 10 whereby portions of data is being sent to the printer or printing system. A band of data can be defined as a block of data transmitted as a variable unit over a dedicated connection medium according to col. 9 line 44-46.

With regard to the above explanation and to claims 18, 22, 23 and 25 having a remote content source and client system, the limitations of the method claims 18, 22, 23 and 25 are covered by the steps of the method claims 10, 14, 15 and 17 above, which wholly includes the processes cited in claims 18, 22, 23 and 25.

Regarding claims 26, 30, 31 and 33, the limitations of the computer program product claims are covered by the method claims 1, 2, 6, 7 and 9 above. The operation of the computer program claims 26, 30, 31 and 33 perform the steps of the method claims 1, 2, 6, 7 and 9 within a computer readable medium as covered in Hines where the instructions for the operations to the prescribed methods above are stored in a computer readable medium such as a microprocessor or software application installed in a personal computer in Hines (Fig. 3 ref. no. 114, 118, col. 18 line 26-52).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 3-5, 11-13, 19-21 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hines, as applied to claim 1, 10, 18 and 26 above, in view of Murphy (6031624).

Regarding claim 3-5, Hines is relied on for the teachings of claim 1 above but he fails to disclose the determination of a block size of the first data portion, wherein the method of determination includes pinging the content source to calculate a data transfer speed and adjusting the block size based upon the data transfer speed, adjusting the block size comprising the steps of setting a first block size if data transfer speed is a first speed and a setting a second block size if data transfer speed is a second speed greater than the first speed.

However, the printing method of Murphy includes the steps of:

Determining the block size of first portion before print engine starts printing (col. 15 line 42-44, wherein the **threshold value** is the block size in buffer);

Pinging the content source to calculate data transfer speed (i.e. **link speed**) (col. 15 line 48-50 mentions the evaluating of data transfer rate and further in col. 13 line 26-45 wherein Murphy fully describes the operation of "pinging" i.e. the transmission of data packets from the content source and acknowledgment of receipt by the printer); and adjusting the block size based on the data transfer speed (col. 15 line 42-50 mentions the calculation of threshold buffer size based on data transfer speed further described in col. 12 line 37-55);

Setting a first block size if data transfer is one speed or a second block size if data transfer speed is another speed (col. 15 line 42-50 wherein setting the threshold value for the buffer size can be interpreted as the conditional setting of block sizes).

Hines and Murphy are combinable because they are from the same field of endeavor i.e. parallel processing of print jobs.

At the time of invention, it would have been obvious to combine the adaptive data block size determination step with the band printing method of Hines. The motivation to do so would have been to: a) minimize communication between client processor and printer if many client processors are connected to the printer in a network; b) set the most efficient data block size to be sent for printing based on data transfer rate between printer and client processor so as to achieve the goal in (a) using a well-utilized method of pinging destination device; c) prevent printer buffer overflow when there is a backlog of print jobs in a network printer by setting smaller data blocks; d) maximizing use of printing resources by continuously and simultaneously buffering and printing data.

Regarding claims 11-13, as applied to claim 10, the steps of the method claims 3-5 are covered by the method claims of 11-13 wherein the limitations of method claims 3-5 wholly recites the steps of the method claims 11-13. Therefore, method claims 11-13 are rejected as applied to independent claim 10.

Regarding claims 19-21, as applied to claim 18, the steps of the method claims 3-5 are covered by the method claims of 19-21 wherein the limitations of method claims 3-5 wholly recites the steps of the method claims 19-21. Therefore, method claims 19-21 are rejected as applied to independent claim 18.

Regarding claims 27-29, as applied to claim 26, the limitations of the computer program product claims are covered by the method claims 3-5 as applied to claim 26 above. The operation of the computer program claims 27-29 perform the steps of the method claims 3-5 within a computer readable medium as covered in Hines where the instructions for the operations to the prescribed methods above are stored in a computer readable medium such as a microprocessor or software application installed in a personal computer in Hines (Fig. 3 ref. no. 114, 118, col. 18 line 26-52).

5. Claims 8, 16, 24 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hines as applied to claim 1, 10, 18 and 26 above, in view of Cavill et al. (6003069), hereafter as Cavill.

Regarding claim 8, although Hines describes the transfer of a first portion of the data file from a remote content source, he does not claim the step of downloading the first portion from a server via an Internet communications system.

However, Cavill describes the transfer of files between computers operating within the Internet (col. 5, line 5-7).

Hines and Cavill are combinable because they are from the same field of endeavor i.e. print job control.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Cavill with the teachings of Hines as Cavill is an obvious extension of Hines's teachings which describes the downloading of data to a printer in the network (col. 2 line 2-7). Cavill specifies Hines's network to be an Internet.

The motivation for doing so would have been to utilize the largest wide area network available i.e. Internet, which allows access to the largest data resources. Since the Internet is the most utilized medium of data sources and file transfer among all establishments today, it would be obvious and logical to implement the system of Hines within an Internet environment.

Regarding claim 16, as applied to claim 10, the steps of the method claim 8 are covered by the method claim of 16 wherein the limitations of method claim 8 wholly recites the steps of the method claim 16. Therefore, method claim 16 is rejected as applied to independent claim 10.

Regarding claim 24, as applied to claim 18, the steps of the method claim 8 are covered by the method claims of 24 wherein the limitations of method claim 8 wholly recites the steps of the method claims 24. Therefore, method claim 24 is rejected as applied to independent claim 18.

Regarding claim 32, as applied to claim 26, the limitations of the computer program product claims are covered by the method claim 8 as applied to claim 26 above. The operation of the computer program claim 32 perform the steps of the method claim 8 within a computer readable medium as covered in Hines where the instructions for the operations to the prescribed methods above are stored in a computer readable medium such as a microprocessor or software application installed in a personal computer in Hines (Fig. 3 ref. no. 114, 118, col. 18 line 26-52).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yaoneng Lee whose telephone number is (703) 305-8670. The examiner can normally be reached on 8.00am-4.30pm (Mon-Fri).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on (703) 308-7452. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9700.

Nov. 29, 2003

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